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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/837,937	04/19/2001	Christoph Gerard August Hoelen	NL 000211	8218

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PHILIPS ELECTRONICS NORTH AMERICAN CORP
580 WHITE PLAINS RD
TARRYTOWN, NY 10591

EXAMINER	
ANYASO, UCHENDU O	
ART UNIT	**PAPER NUMBER**
2675	

DATE MAILED: 06/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/837,937	HOELEN ET AL.	
	Examiner	Art Unit	
	Uchendu O Anyaso	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 March 2003* .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

1. **Claims 1-20** are pending in this action.

Claim Rejections - 35 USC ' 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1-20** are rejected under 35 U.S.C. 102(b) as being anticipated by *Gibbons* (U.S. Patent 5,122,791).

Regarding **independent claim 1**, and for **claims 8** and **9**, Gibbons teaches a color-sequential display 1 formed by a matrix of surface-stabilised bi-stable ferroelectric liquid crystal elements 2 wherein each element 2 is separately settable, by the output of appropriate signals from matrix driver 3 along column conductor lines 4 and row conductor lines 5, between two states, in one of which light can pass through the element and in the other of which light is prevented from passing therethrough (column 3, lines 45-53, figure 1 at 4, 5).

Furthermore, Gibbons teaches how the display 1 has three sets (6, 7 and 8) of fluorescent tubes, each set providing uniform backlighting of the matrix in a respective color (green, red, and blue) used to produce a color display (column 3, lines 54-57, figure 1 at 1, 6-8).

Furthermore, Gibbons teaches how the light passage means comprises means to operate, for a given setting, a light source at a light intensity proportional to the binary significance of the portion of the signal for display at that given setting wherein the light-passage means

comprises means to operate three light sources of different color characteristics, such that the intensity of each light source is proportional to the binary significance of that portion of the signal for that setting (column 1, lines 28-37).

Also, Gibbons teaches that the maximum intensity for the three light sources need not be the same; for example, if the three light sources are such that one emits green light, another blue light and the third red light, then the green-emitting source may have a higher maximum intensity than the red or the blue sources (column 1, lines 38-43).

Furthermore, Gibbons teaches how the driver control unit 37 drives the luminuous fluxes in dependence upon the image to be displayed by the display device (column 6, lines 21-47, figure 6 at 37).

Regarding **claims 2, 6, 17** and **19**, in further discussion of claim 1, Gibbons teaches how the driver control unit 37 drives the luminuous fluxes in dependence upon the image to be displayed by the display device (column 6, lines 21-47, figure 6 at 37).

Regarding **claims 3, 4, 12** and **13**, in further discussion of claim 1, 2, Gibbons teaches that in order to provide brightness control of the display, the activation duration of the sets of fluorescent tubes is variable, being dependent on the binary significance of the brightness information for the relevant color in the input signal wherein half of the frame time (T) is used for the numerous setting operations on the matrix of elements and half is used for the backlighting operations of the various settings (column 3, lines 67 through column 4, lines 2).

Furthermore, Gibbons teaches that the setting and backlighting operations in respect of the green light constitute half the frame time, while those for each of the red and blue light constitute quarter the frame time such that this display utilizes an eight bit-encoded video signal consisting of four bits dedicated to the green light information, and two bits dedicated to each of the red and blue light information (column 4, lines 2-9).

Regarding **claims 5, 14, 18** and **19**, in further discussion of claim 1, 17, 19, Gibbons teaches how the lattice of elements 33 is backlit by a number of fluorescent tubes 34 whose light intensity and duration of operation can be controlled (column 6, lines 7-12, figure 6 at 34; see also figure 5).

Regarding **claims 10** and **11**, in further discussion of claim 1, Gibbons teaches that the maximum intensity for the three light sources need not be the same; for example, if the three light sources are such that one emits green light, another blue light and the third red light, then the green-emitting source may have a higher maximum intensity than the red or the blue sources (column 1, lines 38-43).

Regarding **claims 7** and **16**, in further discussion of claim 2, 15, Gibbons teaches how his invention would be mounted on a printed circuit board (figure 8)

Regarding **claim 15,** in further discussion of claim 2, Gibbons teaches how the three sets 6, 7, 8 of fluorescent tubes are contained in a housing designed to provide a uniform flux of

each colour into the display wherein the sets of tubes used in the backlight are low pressure mercury/rare gas (LPMV) discharge lamps coated on the inside wall with a phosphor, chosen to have appropriate spectral distribution, rise and decay time characteristics (column 5, lines 12-21, figure 1 at 6, 7, 8).

Response to Arguments

4. Applicant's arguments filed March 25, 2003 have been fully considered but they are not persuasive.

Applicant amended independent claim 1, dependent claims 2-9, and added new claims 10-20. Applicant then argues that independent claim 1 is not anticipated by the Stevens reference. In response to applicant's amendment and argument, Gibbons reference is used because it addresses both the newly added amendments. Specifically, Gibbons teaches a color-sequential display 1 formed by a matrix of surface-stabilized bi-stable ferroelectric liquid crystal elements 2 wherein each element 2 is separately settable, by the output of appropriate signals from matrix driver 3 along column conductor lines 4 and row conductor lines 5, between two states, in one of which light can pass through the element and in the other of which light is prevented from passing therethrough (column 3, lines 45-53, figure 1 at 4, 5).

Furthermore, Gibbons teaches how the display 1 has three sets (6, 7 and 8) of fluorescent tubes, each set providing uniform backlighting of the matrix in a respective color (green, red, and blue) used to produce a color display (column 3, lines 54-57, figure 1 at 1, 6-8).

Furthermore, Gibbons teaches how the light passage means comprises means to operate, for a given setting, a light source at a light intensity proportional to the binary significance of

the portion of the signal for display at that given setting wherein the light-passage means comprises means to operate three light sources of different color characteristics, such that the intensity of each light source is proportional to the binary significance of that portion of the signal for that setting (column 1, lines 28-37).

Also, Gibbons teaches that the maximum intensity for the three light sources need not be the same; for example, if the three light sources are such that one emits green light, another blue light and the third red light, then the green-emitting source may have a higher maximum intensity than the red or the blue sources (column 1, lines 38-43).

Furthermore, Gibbons teaches how the driver control unit 37 drives the luminuous fluxes in dependence upon the image to be displayed by the display device (column 6, lines 21-47, figure 6 at 37).

As such, applicants arguments are not persuasive.

Conclusion

5. THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,111,560 to *May* for a display with a light modulator and a light source.

U.S. Patent 6,115,016 to *Yoshihara et al* for a liquid crystal displaying apparatus and displaying control method thereof.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Uchendu O. Anyaso whose telephone number is (703) 306-5934. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached at (703) 305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Uchendu O. Anyaso

6/02/2003

STEVEN SARAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600